What's New with Maple 11?

Donna Sperry
August 20, 2007

Sections and Slideshows

Sections and slideshows are a way you can use Maple as a demonstration tool in the classroom.

Sections

• Choose "Insert" then "Section"
• An arrow appears in the workspace with a default font for a title.

TIP! Create space to move in the workspace by pressing ENTER numerous times before inserting sections. Once in a section, sometimes it is hard to get out. You can also try collapsing a section (by clicking the arrow next to the section title) before creating the next section.

Slideshows

• Create sections first
• Click "View" then "Slideshow"

TIP! Watch how long you make the sections. If they are too long, the full section will not appear in the slideshow.

Slideshow Features

• Use either ENTER or the Left and Right arrows on keyboard to move from slide to slide. Click the mouse buttons do NOT work.
• You can expand and collapse sections as needed. You can expand ALL sections by choosing "View" and "Expand All Sections". Similarly, you can collapse ALL sections by choosing "View" and "Collapse All Sections".
• You can go back and forth between the active workspace and the slideshow. Press ESC to leave the slideshow. When you return to the slideshow, it will pick up where you left off.
• Numbering system adjusts to the section. Example:

\[(3x - 5) \cdot (2x + 7)\]

\[(3x - 5) (2x + 7)\]  \(\text{(1.3.1)}\)

What you can't do (as far as I know):
• You cannot execute code in Slideshow mode. WYSIWYG -- what you see is what you get.
• No "quick return" button to the Slideshow. You have to use the menu.
**Favorites and Moving Palettes**

- To save to Favorites, right click on the icon you want to save and choose "Add to Favorites Palette"
- To move Palettes, LEFT-CLICK-HOLD the title bar of the palette and DRAG to where you want the palette. Let go of the LEFT MOUSE BUTTON once the palette is where you want it.

**Reveal Maple Codes**

Revealing Maple Codes (circa Maple 9 and below) is a two step process:

To Reveal **Input Codes** (what you or your students typed into Maple)

1. Select the block of input to include what the student entered
2. Choose "Format" then "Convert To" then "1-D Math Input"

To Reveal **Output Codes** (what Maple generates from the commands via the Right-Click menu)

1. Select the block to include the Maple output
2. Choose "View" then "Expand Document Block"

**Example:**

\[
(2x - 5) \cdot (3x + 7) = (2x - 5)(3x + 7) \quad (3.1)
\]

\[
\text{expand} \quad 6x^2 - x - 35 \quad (3.2)
\]

\[
\text{factor} \quad (2x - 5)(3x + 7) \quad (3.3)
\]

**Preview Mode for Plots**

Maple has NOT fixed adjusting a plot's range after the fact, but you can PREVIEW the function before you plot.

**Sidenote!** Use the notation below for function notation -- it is the most versatile.

\[
f := x \rightarrow 4 - x^2 \quad (4.1)
\]

\[
f(x) \rightarrow 4 - x^2 \quad (4.2)
\]
Not new, but maybe New to you?

Tutors

Tutors are great demonstration tools in the classroom. Some favorites I used this past summer:

1. Function Composition from PreCalculus
2. Rational Functions from PreCalculus
3. Newton's Method from Calculus - Single Variable
4. Riemann Sums from Calculus - Single Variable (I used this for the entire Integration chapter)

How to access Tutors: Choose "Tools" then "Tutors" then select the appropriate discipline and tutor.

TIPS! Note that you have to enter functions "the old fashioned way". I told my students to "think TI" when they would type the function into the tutors. Also note that ALL multiplication needs an asterisk (*) even a number times a variable, and functions (such as sin(x) and ln(x)) need a set of parens around the variable. Use "sqrt(x)" for square root of x. Some tutors have drop-down menus for more complicated functions, so look for these.

Website

• Maple has introduced a new Student Help Center that provides tutorials, online support (asynchronous), and frequently asked questions.

http://www.maplesoft.com/studentcenter/

Students must register with MaplePrimes (it walks them through how to do this on the website) but it is free of charge. Be sure to tell your students not to register a fake email address since communication with Maple Help is via email.

• Check out "Site Resources". It offers videos, webinars (live Maple presentations), and online resource books.

What doesn't quite work (still)

• Freezing: If Maple freezes, it is going to do it at the PLOT phase or anything that uses Java (i.e., Print Preview). Since this is a Java issue, I suspect it will be a lingering issue. However, if you have Maple 11 and have not downloaded the following patch (11.01), try doing that. Here is the "updates" website. Keep this handy and tell your students to do the same:


• Handwriting Recognition: I saw this demonstrated beautifully at a webinar last March but
haven't had experience the same glorious results. Maybe it's my penmanship - er, mouse-manship. ..

- **Multiplication:** Multiplying a number times a variable without using the asterick (*) works consistently (except with tutors), but multiplying a variable times a variable (i.e, xy) or a function times a function still has mixed results. Sometimes it works, sometimes it doesn't. Best to use the asterick (*) whenever in doubt.

---

Thank You!

*Donna L. Sperry*

*Associate Professor*

*Mathematics, Physics, and Engineering*

*DonnaS@csmd.edu*

*301-934-7810*

*ST546-E (until we are "evicted" in October)*